

IMPROVEMENTS IN ROLLING ELEMENTS BEARINGS

Abstract

A method of treatment of a rolling element bearing component by hard particle abrasion to improve the surface topography of the component. The hard particle abrasion includes the steps of immersing the bearing component in a receptacle containing hard particles, preferably alumina, and agitating the component and/or hard particles to produce relative movement. Preferably the method is performed for between 10 minutes and 1 hour. The relative movement may be produced by rotating the component in one direction while the receptacle is rotated in the opposite direction. The surface finish of the component is preferably improved from around $0.13\ \mu\text{m}$ to around $0.07\ \mu\text{m}$. Compressive stress in the surface of the component may also be improved, typically by between 200 MPa and 500 MPa. Rolling contact fatigue life of the component is also improved.

09762653-042701